MISSOURI DEPARTMENT OF TRANSPORTATION
MATERIALS ENGINEERING
Jefferson City, Missouri

Test Method
MoDOT T22
DETERMINATION OF PERCENT OPEN AREA OF PLASTIC FILTER CLOTH

1.0 SCOPE

This method describes a procedure for determining the percent open area of Plastic Filter Cloth. This test method is adapted from the procedure developed by the Corps of Engineers, in their analysis and testing of plastic filter cloth as reported in their Technical Report S-72-7 entitled "Development of Design Criteria and Acceptance Specifications for Plastic Filter Cloth" dated June, 1972.

2.0 SELECTION OF SPECIMENS

Select 5 specimens not less than 2" x 2" from the received with not more than 3 specimens being selected from any one roll. If more than 2 rolls are represented by the sample, the 2" x 2" specimens shall be taken proportionately from the rolls.

When selecting the specimens, care shall be taken that no 2 specimens shall contain the same threads of the fabric in either direction. In addition, no specimen shall be taken at the same location as on the other roll(s). Figure 1 shows the desired specimen selection.

3.0 PROCEDURE

(a) Place a specimen of the cloth in a 2x2 inch glass slide holder and project by a slide projector on a screen.

(b) Select a block of 25 openings (5x5) near the center of the image.

(c) Measure the length and width of each opening (L_O and W_O, Figure 2) and determine the individual open area (A_O) by multiplying the length of the opening by its width (L_O x W_O). The measurements to be accurate to the nearest thousandth of an inch.

(d) Measure the length and width of the 25 openings plus the width of a fiber (L_T and W_T, Figure 2) and determine the total area (A_T) by multiplying the length of the 5 openings plus a fiber by the width of the 5 openings plus a fiber (L_T x W_T). The measurements to be accurate to the nearest thousandth of an inch.

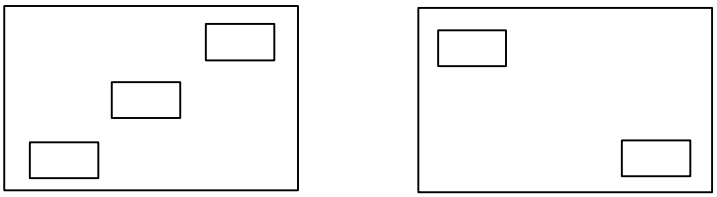
(e) The percent open area of the specimen is determined to be the ratio of the sum of the 25 individual open areas (times 100) to the total area as shown in the following equation.

$$\text{Percent open area} = 25 \frac{1\ (A_O)\ x\ 100}{A_T}$$

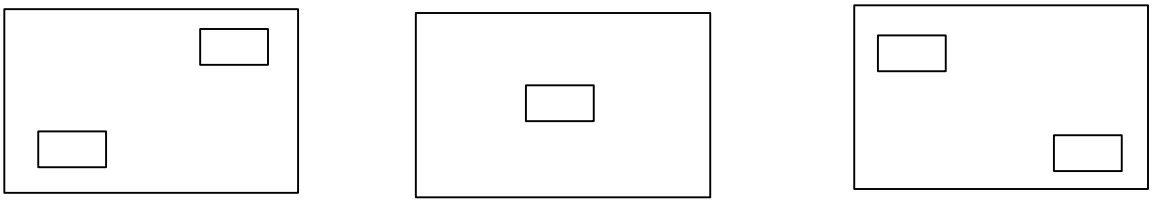
(f) Repeat above on each specimen.

4.0 REPORTING

Averaging the results (Percent open area) of the five specimens, round to the nearest whole number and report as percent open area for the sample.



2 Rolls



3 Rolls

FIGURE 1

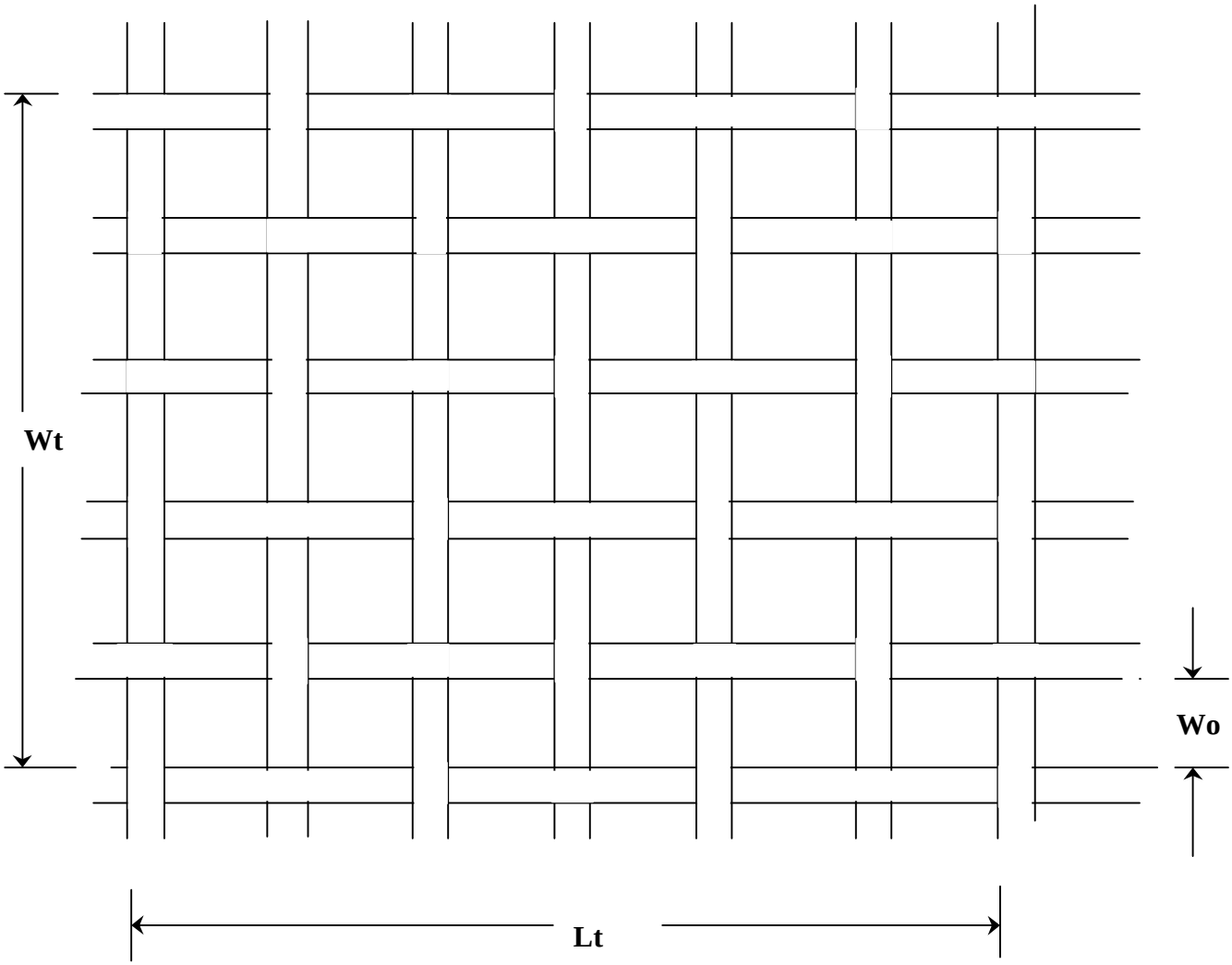


FIGURE 2